



Response to Office Action dated 06/12/2002  
CLEAN COPY OF THE AMENDED CLAIMS

5 1. A hinge for an orthopedic splint comprising:  
an upper plate and a lower plate connected for pivotal movement, a detent  
supported on said upper plate and displaceable into and out of an engaged  
condition thereby to lock the two plates against said pivotal movement in a  
selected angular relationship relative to each other, a spring normally urging said  
10 detent into said engagement, cover means protecting said detent against  
displacement out of said engagement by an unaided hand, and an aperture in  
said cover means sized and disposed for admitting a tool end operative for  
displacing said detent out of said engagement against said urging of said spring  
and thus to free the plates for said pivotal movement, whereby tampering with  
15 the angular setting of said hinge by a patient wearing said orthopedic splint is  
discouraged.

20 2. The hinge of Claim 1 wherein said detent is displaceable in a guide way  
defined between said upper plate and said cover means.

25 3. The hinge of Claim 2 wherein said spring is contained in said guide way.

4. The hinge of Claim 3 wherein said spring is a coil spring compressed between  
said upper plate and said detent.

5. The hinge of Claim 1 wherein said detent is engageable with a toothed edge  
on said lower plate.

6. The hinge of Claim 1 wherein said aperture is a slot aligned with a direction of displacement of said detent, said slot being sized and dimensioned to allow visual confirmation of engagement of said detent with said toothed edge.
- 5 7. The hinge of Claim 1 wherein said detent has a tool end receptacle adapted to receive the said tool end thereby to facilitate displacement of said detent by means of a said tool end.
- 10 8. The hinge of Claim 1 wherein said pivotal movement comprises an arc including a zero angle position at an intermediate location along said arc, such that said plates may be moved through substantial angular ranges on either side of said zero angle position.
- 15 9. The hinge of Claim 8 wherein said zero angle position is centered along said arc such that said plates may be pivoted through equal angular ranges on either side of said zero angle position.
10. The hinge of Claim 9 wherein said plates are aligned in a straight line in said zero angle position.
- 20 11. The hinge of Claim 1 further comprising a locking element removably engageable with said detent for holding said detent out of said engagement thereby to facilitate adjustment of the plates to a desired angular relationship.
- 25 12. The hinge of Claim 11 wherein said locking element is threaded for engagement with said detent.
13. The hinge of Claim 12 wherein said locking element is a screw engageable in a threaded screw hole defined in said detent, such that an end of said screw

bears against said upper plate or engages with a hole in the upper plate thereby to hold said detent against said urging of said spring.

14. The hinge of Claim 1 further comprising range setting means engageable by  
5 said detent, said range setting means being adjustable for limiting said pivotal  
movement to a greater or lesser arc in a disengaged condition of said detent.

15. The hinge of Claim 14 wherein said range setting means comprises a pair of  
10 wheels turning concentrically with said pivotal movement of the plates, each of  
said wheels having a wheel edge engageable by said detent for locking the  
wheel relative to said upper plate, and a stop on each of said wheels operative  
for limiting pivotal movement of said lower plate relative to said upper plate in  
one direction of movement, a stop pin on said lower plate being disposed  
between the two stops such that the range of pivotal movement between the  
15 plates may be set by the angular spacing between the two stops when said  
detent is engaged for locking said wheels against rotation relative to said upper  
plate.

A3  
20 16. The hinge of Claim 1 further comprising tabs projecting radially from said  
wheel edge of said wheels and directional markings on said tabs as a visual  
indicator for assisting a therapist in determining the relative positions of the tabs  
during adjustment of the hinge.

25 17. The hinge of Claim 1 wherein said cover means includes a spacer mounted  
to said upper plate and defining a guide way for said detent and a cover plate for  
containing said detent in said guide way.

Sub  
C1  
30 18. A hinge for an orthopedic splint comprising:  
an upper plate and a lower plate connected for pivotal movement, a detent  
element supported on said upper plate and displaceable into and out of an

C1 engaged condition thereby to lock the two plates against said pivotal movement in a selected angular relationship relative to each other, a spring normally urging said detent into said engagement, wherein said pivotal movement comprises an arc including a zero angle position at an intermediate location along said arc,

5 such that said plates may be moved through substantial angular ranges on either side of said zero angle position, and tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand.

10 19. The hinge of Claim 18 wherein said zero angle position is centered along said arc such that said plates may be pivoted through equal angular ranges on either side of said zero angle position.

15 20. The hinge of Claim 19 wherein said plates are aligned in a straight line in said zero angle position.

~~Sub C2~~ 21. The hinge of Claim 18 wherein said tamper deterrent means comprise cover means protecting said detent element against displacement out of said engagement by an unaided hand, and an aperture in said cover means sized and disposed for admitting a tool end operative for displacing said detent out of said engagement against said urging of said spring and thus to free the plates for said pivotal movement, whereby tampering with the angular setting of said hinge by a patient wearing said orthopedic splint is discouraged.

~~Sub O1~~ 25 22. A hinge for an orthopedic splint comprising:  
an upper plate and a lower plate connected for pivotal movement, a detent supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement in a selected angular relationship relative to each other, a spring normally urging said detent into said engagement, and a locking element removably engageable with

*Art* said detent for holding said detent out of said engagement thereby to facilitate adjustment of the plates to a desired angular relationship.

23. The hinge of Claim 22 wherein said locking element is threaded for  
5 engagement with said detent.

24. The hinge of Claim 23 wherein said locking element is a screw engageable  
in a threaded screw hole defined in said detent, such that said screw engages  
said upper plate thereby to hold said detent in a disengaged condition against  
10 said urging of said spring.

25. The hinge of Claim 24 wherein said screw is removable from the splint  
thereby to discourage tampering with the detent or may be left in place and  
tightened to secure said detent in said engaged condition.

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~~Art Sub~~ 26. A hinge for an orthopedic splint comprising:  
an upper plate and a lower plate connected for pivotal movement, a detent  
element supported on said upper plate and displaceable into and out of an  
engaged condition thereby to lock the two plates against said pivotal movement  
20 in a selected angular relationship relative to each other, a spring normally urging  
said detent into said engagement, a pair of wheels turning concentrically with  
said pivotal movement of the plates, each of said wheels having a wheel edge  
engageable by said detent for locking the wheel relative to said upper plate, and  
a stop on each of said wheels operative for limiting pivotal movement of said  
25 lower plate relative to said upper plate in one direction of movement, a pin on  
said lower plate disposed for movement between the two stops such that the  
range of pivotal movement between the plates may be set by the angular spacing  
between the two stops when said detent is engaged for locking said wheels  
against rotation relative to said upper plate, and tamper deterrent means

*183*  
arranged for protecting said detent element against displacement out of said engagement by an unaided hand.

*184*  
5 27. The hinge of Claim 26 further comprising directional markings on said wheels as a visual indicator for assisting a therapist in setting the relative angular positions of the wheels during adjustment of the hinge.

10 28. The hinge of Claim 27 wherein said directional markings are on tabs extending radially from said wheels.

15 29. A hinge for an orthopedic splint comprising:

an upper plate and a lower plate connected for pivotal movement, a detent element supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement  
15 in a selected angular relationship relative to each other, a spring normally urging said detent into said engagement, a pair of wheels turning concentrically with said pivotal movement of the plates, each of said wheels having a wheel edge engageable by said detent for locking the wheel relative to said upper plate, and a stop on each of said wheels operative for limiting pivotal movement of said

20 lower plate relative to said upper plate in one direction of movement, said pin on lower plate being disposed between the two stops such that the range of pivotal movement between the plates may be set by the angular spacing between the two stops when said detent is engaged for locking said wheels against rotation relative to said upper plate, and directional markings on said wheels provided as

25 a visual indicator for assisting a therapist in setting the relative angular positions of the wheels during adjustment of the hinge.

30 30. The hinge of Claim 29 wherein said directional markings are on tabs extending radially from said wheels.

31. The hinge of Claim 29 further comprising tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand.

5 32. The hinge of Claim 31 wherein said tamper deterrent means comprise a cover protecting said detent element against displacement out of said engagement by an unaided hand, and an aperture in said cover sized and disposed for admitting a tool end operative for displacing said detent out of said engagement against said urging of said spring and thus to free the plates for said 10 pivotal movement, whereby tampering with the angular setting of said hinge by a patient wearing said orthopedic splint is discouraged.